

100 Office of the Secretary

104 Regulations for the Green Energy Program

1 Purpose

The purpose of these regulations is to prescribe procedures relating to the Green Energy Fund pursuant to 29 **Del.C.** Chapter 80, Subchapter 2, the Delaware Energy Act. The goal of establishing these regulations is to provide a streamlined procedure for distributing Green Energy Funds through the use of grants and loans.

These regulations provide rules of practice and procedure for application and disbursement of Green Energy Fund grants and loans for renewable energy projects and encouraging energy efficiency in Delaware.

2 Statutory Authority

Delaware Code Section 1014 provides the authority for establishment of the Green Energy Fund. These regulations are promulgated under the authority of 29 Delaware Code, Section 8057(b)

3 Definitions

For purposes of these regulations, the following words and phrases shall have the meanings set forth below.

“Applicant” means those eligible for funding as described in Section 5.2

“Community-owned energy generating facility or Community system” means a renewable energy generating facility that has multiple owners or applicants who share the output of the generator, which may be located either as a stand-alone facility or behind the meter of a participating owner or applicant. The facility shall be interconnected to the distribution system and operated in parallel with an electric distribution company’s transmission and distribution facilities.”

“Department” means the Department of Natural Resources and Environmental Control, the Division of Energy and Climate, the Delaware Energy Office, or other agents as the Department or Secretary may designate.

“DP&L” means the trade name used by Delmarva Power and Light Company.

“DP&L Service Territory” means the service territory of Delmarva Power and Light Company, or its successor; as such, territory is reflected on the electric service territory maps maintained by the Delaware Public Service Commission under the authority of 26 **Del.C.** §203B

“Energy Efficiency Improvement” means an increase in productivity or output for a given energy input when compared to conventional technologies or practices. Energy efficiency improvements may include equipment replacement, installation of controls, changes in operating practices, or other measures.

“Energy Efficiency Information Program” or “Information Program” means a program established mainly to educate or inform energy consumers about the environmental and economic benefits of energy efficiency improvements. Energy Efficiency Information Programs may include the demonstration of new technologies or the novel application of existing technologies in order to establish their environmental and economic benefits.

“Fiscal Year” means the budget and accounting year of the State beginning on July 1 and ending on June 30. Reference to a Fiscal Year by year number refers to the Fiscal Year ending on June 30 of the named year. For example, a reference to Fiscal Year 2004 means the period beginning on July 1, 2003 and ending on June 30, 2004.

“Freeze Tolerance Limit” means the temperature below which a Qualifying System for Solar Water Heating might suffer damage attributable to freezing.

“Fuel Cell” is an electrochemical energy conversion device, which converts the chemical energy from a fuel directly into electricity and heat.

“Grant Application Step 1 Documents”, “Step 1 Documents” means documents required by the Department prior to commencing applicant field installations.

“Grant Application Step 2 Documents”, “Step 2 Documents” means documents required by the Department after completion of applicant field installations.

“Grant Application Revision Documents”, “Revision Documents” means documents required by the Department if the applicant or contractor chooses to alter the approved Step 1 documents. This includes but is not limited to revisions to proposals, system schematics, plot diagrams, and interconnection agreements. Any revisions to the Department approved system must be sent to the Department for reevaluation.

“Geothermal Heat Pump” means either an open or closed loop system or direct exchange system that uses the thermal energy of the ground or groundwater as the heat source and heat sink for residential or non-residential space heating and/or cooling. It may provide space heating and cooling, cooling only, or heating only functions. A closed loop system consists of a ground heat exchanger in which the heat transfer fluid is permanently contained in a closed system. An open loop system consists of a ground heat exchanger in which the heat transfer fluid is part of a larger environment. A direct exchange system consists of a geothermal heat pump system in which the refrigerant is circulated in pipes buried in the ground, rather than using a heat transfer fluid, such as water or antifreeze solution in a separate closed loop, and fluid to refrigerant heat exchanger.

“Green Energy Fund” means the fund established by 29 Del.C. §8057 and administered by the Department.

“Grid-connected”, “Grid-tied” or “Interconnected” means a condition in which a Qualifying System that is an electrical generating system serves and is electrically connected to an electrical load that is connected to and served by the local utility electrical grid. The delivery or ability to deliver, any portion of the generating capacity into the utility electrical grid is not required, nor must the loads served be only alternating current (AC) loads. Systems need only to be capable of serving electrical loads that would otherwise be served by the local utility.

“Ground mount,” means a photovoltaic or solar water heating system mounted on the ground or affixed to a pole and rack system. Qualifying systems mounted on any enclosure will be considered a roof-mounted system.

“Kilowatt” means the basic unit of electric power equal to 1,000 Watts.

“Kilowatt-hour” means the basic unit of electric energy equal to one Kilowatt of power supplied to or taken from an electric circuit steadily for one hour. One-Kilowatt hour equals 1,000 Watt-hours. Electric energy is commonly sold by the Kilowatt-hour.

“Non-Residential” means all classes of applicant purchasing electric power for uses other than for individual households. These groups of applicants generally purchase electric power for commercial and industrial purposes. When used as an adjective with respect to Qualified Systems or Green Energy Program Grants or Loans, such term refers to systems owned by, leased to, or grants or loans awarded to Non-Residential persons. Individual residential systems grouped as part of a community system or as part of a group power purchase agreement will be considered as one non-residential grant request.

“Participating Contractor”, **“Contractor”** is a trained contractor who has submitted an application as designated by the Department with all required attachments and maintains all required licenses, insurance, and warranties. Contractors must have licensed professionals, governed by the Delaware Board of Professional regulations, on staff or as part of a staff contractual agreement. The licensed professional must meet the educational requirements of the program.

“Passive Solar Design” means a residential or non-residential building design that uses no external mechanical power, such as pumps or blowers, to collect and move solar heat.

“Photovoltaic” means an electronic semiconductor device, most commonly made of silicon that produces direct current (DC) electricity from sunlight.

“Placed in Service” means installed, operational, and producing output.

“Power Purchase Agreement” is a financial arrangement in which a third-party developer owns, operates, and maintains a renewable energy technology electricity generating system, and an applicant agrees to host the system on its roof or elsewhere on its property and purchases the system’s electric output from the renewable energy technology system for a predetermined period.

“Professional Engineer” means "engineer", as defined in Title 24 **Del.C.**, Chapter 28, Professional Engineers, namely, a person who by reason of his or her advanced knowledge of mathematics and the physical sciences, acquired by professional education and practical experience, is technically and legally qualified to practice Professional Engineering, and who is licensed by the Delaware Association of Professional Engineers.

“PTC” refers to PVUSA Test Conditions, which were developed to test and compare PV systems as part of the PVUSA (Photovoltaic for Utility Scale Applications) project. PTC conditions are 1,000 Watts per square meter solar irradiance, 20 degrees C air temperature, and wind speed of 1 meter per second at 10 meters above ground level. PV manufacturers use Standard Test Conditions, or STC, to rate their PV products. STC are 1,000 Watts per square meter solar irradiance, 25 degrees C cell temperature, air mass equal to 1.5, and ASTM G173-03 standard spectrum. The PTC rating, which is lower than the STC rating, is generally recognized as a more realistic measure of PV output because the test conditions better reflect "real-world" solar and climatic conditions, compared to the STC rating.

“Purchaser” means the qualifying system owner.

“Qualifying System” are the renewable energy systems stated in Section 5.4. Qualifying system components must be completely new or previously unused. Absolutely no refurbished parts or refurbished equipment of any kind is eligible for funding under the Green Energy Endowment Program.

“Queue for Payment” means the list Green Energy Endowment Program participants awaiting payment. Participants must have completed all program requirements and be posted on the Department’s website.

“Renewable Energy Technology” shall have the meaning as prescribed in 29 Del.C. Chapter 80.

“Renewable Fuel” means a non-nuclear fuel that is derived from non-fossil energy sources that are naturally replenishing and virtually inexhaustible.

“Residential” means the class or classes of applicants purchasing electric power for household uses. When used as an adjective with respect to Qualified Systems or Green Energy Endowment Program Grants, the term refers to systems owned by, leased to, or grants awarded to Residential persons.

“Retailer” means the vendor or lessor of a Qualifying System.

“Secretary” means the Secretary of the Department of Natural Resources and Environmental Control.

“Self Installation” Homeowners or building owners that install renewable energy systems on their property without the assistance of a contractor.

“Solar Pathfinder™” is a non-electronic instrument that measures the annual solar potential for a given site.

“Solar Shade Analysis” means an onsite evaluation using a Solar Pathfinder™ or functionally equivalent device that measures the annual solar potential for the given site.

“Solar Water Heating” means the heating of water by use of the sun’s energy rather than electricity, gas, or some other means.

“State” means the State of Delaware.

“Ton of Capacity” means 12,000 British Thermal Units (BTU) per hour of cooling capacity.

“Watt” means the basic unit of measure of real electric power, or rate of doing work.

“Watt-hour” means the basic unit of measure of electric energy consumption. The total amount of energy used in one hour by a device that requires one Watt of power for continuous operation.

“Wind Turbine” means a mechanical/electrical system that converts the kinetic energy of blowing wind into mechanical or electric power.

4 Green Energy Endowment Program

4.1 General Provisions

In addition to adhering to these regulations, all applicants must meet the program requirements as prescribed in 29 Del.C. Chapter 80 Section 8057 of the Delaware Energy Act.

4.2 Green Energy Endowment Program Eligibility

4.2.1 Persons eligible for funding under the Green Energy Endowment Program include:

4.2.1.1 Persons in Delaware receiving services from Delmarva Power & Light, or its successor.

4.2.1.2 Persons in Delaware receiving services from a non-regulated electric supplier, which is contributing to the Green Energy Fund.

4.3 General Provisions for Grant Application Processing

4.3.1 The Department must receive and approve Grant Application Step 1 Documents prior to applicants or contractors commencing system field installations. The Department will automatically disqualify projects that are installed prior to the Department receiving and approving Step 1 Documents. The Department will acknowledge receipt of the Step 1 Documents generally within 10 business days of receiving a new application. The contractor and applicant are fully responsible for ensuring their Step 1 Documents are complete and meet the program requirements. The Department will only accept complete Step 1 Document application packages. Applicants and contractors must review the application instructions and checklist to make sure their applications are complete prior to submitting an application to the Department for review. Department receipt of Step 1 Documents does not constitute automatic approval for funding.

4.3.2 Upon receipt of Step 1 Documents, the Department will perform an evaluation of the proposal package for its compliance with the program requirements. If the proposal package is complete, the Department will process the Grant Approval and issue a Grant Confirmation and Claim Form to the applicant or participating contractor.

4.3.3 Incomplete or incorrect proposal packages will be automatically returned to the customer or contractor.

4.3.4 Incomplete or incorrect proposal packages must be resubmitted in full to the Department for evaluation

4.3.5 The Department will approve funds for projects for six (6) months from the date on the Grant Confirmation and Claim Form. Installation of the approved system and submission of complete Step 2 Documents must be completed during the approval period. Projects not completed within the approval period must resubmit new Step 1 Documents. Resubmitted Step 1 Documents will be subject to the program rules and incentives in effect at that time.

4.3.6 When it is necessary for an applicant or contractor to alter the plans for an approved project, it is the responsibility of the applicant and contractor to provide to the Department new Step 1 documents and a narrative detailing all proposed changes. The proposed changes will be compared to the original approved system. Submission of a change request does not guarantee an approval. Proceeding forward with an installation that differs from the Department approved project proposal, without notifying the Department and receiving a revised Grant Confirmation and Claim Form, could result in either a denial of the grant request or a reduced grant incentive.

4.3.7 After installation, customers and/or contractors must submit Grant Application Step 2 Documents to complete the application process. The Department will acknowledge receipt of the final documentation generally within 10 business days of receipt. The contractor and applicant are fully responsible for ensuring that all forms and documentation are complete and the system meets all program requirements. The

Department will accept only complete Step 2 Document Submissions. Incomplete applications will not be reviewed and will be returned to the applicant. The Department will review complete Step 2 Document submissions for final application approval. Projects receiving final application approval will be queued for payment.

4.3.8 The Department may conduct an inspection of the renewable energy system prior to final grant approval and/or after grant payment. A copy of the site inspection criteria and requirements will be posted on the Department website. Applicants must allow the Department reasonable access to inspect the renewable energy system.

4.3.9 The Department will process grant payments to the applicant unless the applicant requests in writing to have the payment issued to the retailer, installer, or other third party entity.

4.3.10 All grantees with grid connected renewable energy systems funded by the Green Energy Endowment Program will be required to provide the Department with annual production data for three years after receipt of Green Energy Endowment Program funding.

4.3.11 Grant Limits

4.3.11.1 Eligible system size and incentive details will be posted on the Department's website and are subject to change.

4.3.11.2 Applicants will be eligible for the incentives that are in place at the time of Part 1 grant approval.

4.3.11.3 Applicants that have not received funding commitments in excess of the current grant cap may be eligible to apply for additional funding for system expansions or replacements. The Department will calculate the incentive for a renewable energy system expansion or replacement after subtracting any previous Green Energy Endowment Program funding awarded to the applicant from the current grant award cap. Additionally, the Department will calculate expansion incentives starting at the last funding tier of the previous system.

4.3.11.4 The Department will provide clarification regarding grant limits on its website as needed.

4.4 Evaluation of Green Energy Endowment Program Applications

4.4.1 Photovoltaic Systems

4.4.1.1 Accepted Products and Equipment

4.4.1.1.1 Subject to availability of funds, the Delaware Green Energy Endowment Program only offers grants for grid-connected photovoltaic systems installed by qualified contractors or self-installers.

4.4.1.1.2 All photovoltaic modules must be certified by a nationally recognized testing laboratory as meeting the requirements of the most recent version of Underwriters Laboratory Standards governing photovoltaic modules. A comprehensive list of acceptable modules can be found on the <http://www.gosolarcalifornia.org/> website.

- 4.4.1.1.3 All inverters must be certified by a nationally recognized testing laboratory for safe operation and be certified as meeting the current Underwriters Laboratory Standards. A comprehensive list of acceptable inverters can be found on the <http://www.gosolarcalifornia.org/> website.
- 4.4.1.1.4 All qualifying photovoltaic systems must use Underwriters Laboratory listed equipment, comply with the current Institute of Electrical and Electronic Engineers (IEEE) Standards, and meet the appropriate interconnection requirements of DP&L's Technical Considerations and Interconnection Standards or similar interconnection requirements from a non-regulated electric supplier which is contributing to the Green Energy Fund.
- 4.4.1.1.5 All grid interconnected systems must be designed and installed to comply with the National Electric Code (NEC).

4.4.1.2 Array Orientation and Tilt

- 4.4.1.2.1 Optimum array orientation is a 180° true bearing. However, the program accepts solar arrays oriented between South of due East and South of due West true bearing. Systems installed at 270° and 90° true bearing or North of due East and North of due West are not eligible for Green Energy Endowment Program grant funding.
- 4.4.1.2.2 Optimum array tilt is equal to the latitude at the installation site. However, the program accepts array tilt parameters as specified by the module manufacturer, which may allow for tilts greater than and less than latitude.

4.4.1.3 Array Shading

- 4.4.1.3.1 All modules shall be installed such that the array has a minimum of six (6) hours of unobstructed sunshine daily inclusive of solar noon. A "solar window" of eight (8) hours of unobstructed sunshine is preferred.
- 4.4.1.3.2 The installing contractor is responsible for ensuring that the system is free from shading. The installing contractor shall perform a "Solar Shade Analysis" on all installations to ensure the array meets the minimum daily sunshine requirements. The total available solar resource for the specific installation must be at minimum 80% of the optimal solar radiation at the site. Shading, tilt, and orientation losses must allow for 80% of the total solar resource at the site to be shade free. Contractors are to start at 100% (ideal conditions) then subtract losses due to tilt, orientation, and shade.
- 4.4.1.3.3 The installing contractor must take shading measurements at the location all four corners of each array and one measurement in the middle of each array.

4.4.2 Solar Water Heating (SWH) Systems

4.4.2.1 Accepted Products and Equipment

- 4.4.2.1.1 Subject to availability of funds, the Delaware Green Energy Endowment Program offers grants for solar water heating systems installed by qualified contractors or self-installers.

- 4.4.2.1.2 A solar water heating system must be designed to reduce or eliminate the need for electric or gas heated water.
- 4.4.2.1.3 All qualifying residential solar water heating systems must be certified to meet the Solar Rating and Certification Corporation's (SRCC) OG-300 Operating Guidelines and Minimum Standards for Certifying Solar Water Heating Systems: An Optional Solar Water Heating System Certification and Rating Program and have a Freeze Tolerance Limit of minus 21 degrees Fahrenheit without electrical power.
- 4.4.2.1.4 All qualifying non-residential solar water heating systems and systems integrated into a radiant heating application that do not comply with SRCC OG-300 requirements must utilize collectors certified to meet the Solar Rating and Certification Corporation's (SRCC) OG-100 Operating Guidelines for Certifying Solar Collectors only.
- 4.4.2.1.5 Non-residential solar water heating systems (if they are not OG-300 compliant) will be required to submit a detailed system design and a predicted performance calculation verified by a Delaware Professional Engineer (P.E.).
- 4.4.2.1.6 Solar Water Heating Systems integrated into Solar Pool Heating systems for any reason will not be eligible for funding.

4.4.2.2 Collector Orientation and Tilt

- 4.4.2.2.1 Optimum collector array orientation is a 180° true bearing. However, the program accepts solar collectors oriented between South of due East and South of due West true bearing. Systems installed at 270° and 90° true bearing or North of due East and North of due West are not eligible for a Green Energy Endowment Program grant.
- 4.4.2.2.2 Optimum collector tilt is equal to the latitude at the installation site. However, the program accepts collector tilt parameters as specified by the collector manufacturer, which may allow for tilts greater than and less than latitude.

4.4.2.3 Collector Shading

- 4.4.2.3.1 All collectors shall be installed such that the collector array has a minimum of six (6) hours of unobstructed sunshine daily inclusive of solar noon. A "solar window" of eight (8) hours of unobstructed sunshine is preferred.
- 4.4.2.3.2 The installing contractor is responsible for ensuring that the system is free from shading. The installing contractor shall perform a "Solar Shade Analysis" on all installations to ensure the array meets the minimum daily sunshine requirements. The total available solar resource for the specific installation must be at minimum 80% of the optimal solar radiation at the site. Shading, tilt, and orientation losses must allow for 80% of the total solar resource at the site to be shade free. Contractors are to start at 100% (ideal conditions) then subtract losses due to tilt, orientation, and shade.

- 4.4.2.3.3 The installing contractor must take shading measurements at the location all four corners of each array and one measurement in the middle of each array.

4.4.3 Small Wind Turbines

4.4.3.1 Accepted Products and Equipment

- 4.4.3.1.1 Subject to availability of funds, the Delaware Green Energy Endowment Program offers incentives for small grid-connected wind turbines installed by qualified contractors and applicants.
- 4.4.3.1.2 All qualifying small wind systems must use Underwriters Laboratory listed equipment, comply with current Institute of Electrical and Electronic Engineers (IEEE) Standards, and meet the appropriate interconnection requirements of DP&L's Technical Considerations and Interconnection Standards or similar interconnection requirements from a non-regulated electric supplier which is contributing to the Green Energy Fund.
- 4.4.3.1.3 All inverters or other systems used in interconnection must be certified by a nationally recognized testing laboratory for safe operation and be certified as meeting the requirements of current Underwriters Laboratory Standards.
- 4.4.3.1.4 All grid-interconnected systems must be designed and installed to comply with the National Electric Code (NEC).
- 4.4.3.1.5 Wind turbines will only be considered eligible for Green Energy Endowment Program funding if they are listed on the California Energy Commission Emerging Renewables Program's List of Eligible Small Wind Turbines http://www.consumerenergycenter.org/cgi-bin/eligible_smallwind.cgi; the Small Wind Certification Council website <http://www.smallwindcertification.org/>; or other certification list as designated on the Department's website.

4.4.3.2 Additional Considerations

- 4.4.3.2.1 The Department requires an estimation of the annual energy output of the proposed wind system. Contractors should calculate the estimated energy production for a small wind energy system using the following formula:

$$\text{Annual Energy Output (kWh/year)} = 0.01328 (D^2) (V^3)$$

Where D^2 = the blade diameter in feet squared, and
 V^3 = the wind velocity cubed in mph -- this is the year round average wind speed.
0.01328 = a conversion factor of blade diameter and mph to kWh per year

This method of calculation does not compensate for site-specific variables such as wind shear, turbulence, weibull, air density at site altitude, and turbine specific output. This calculation is designed to give a generic evaluation of turbine output.

- 4.4.3.2.2 The Department may reject applications if the proposed installation site has an inadequate wind resource. This proposed installation site must be shown to have a minimum annual average wind speed that is greater than the cut-in speed listed on the manufacturer's specification sheet for

the proposed turbine model. Site specific wind data must be provided with the application. The Department will provide a list of acceptable wind data sources on its website for contractor and customer use. Contractors or applicants may propose other wind data sources, but the Department must approve these sources prior to installation of the proposed system.

4.4.3.2.3 Wind resources are locally variable in Delaware. In order to ensure that only viable projects receive Green Energy Endowment Program funding, the Department will provide 50 percent of the approved grant value to the applicant after the Department approves the applicant's Part 2 Documents and the project is eligible for payment.

4.4.3.2.4 The Department will issue payment on the remaining 50 percent of the approved grant amount if the following occurs:

- (1) One year of system production data is provided to the Department, and
- (2) The one year production data shows that the system achieved a minimum of 70 percent of its estimated annual energy output as stated on the Step 1 Documents

4.4.4 Geothermal Heat Pump Systems

4.4.4.1 Accepted Products and Equipment

4.4.4.1.1 Subject to availability of funds, the Delaware Green Energy Endowment Program offers grants for geothermal systems installed by qualified contractors and applicants.

4.4.4.1.2 Qualifying geothermal heat pump systems must be sized in accordance with good heating, ventilation, and air conditioning design practices for the site-specific occupancy, location, and building structure. The contractor must complete a Manual J calculation, or other equivalent calculation, to determine proper sizing for proposed geothermal equipment.

4.4.4.1.3 All qualifying systems must have a warranty for protection of the integrity and performance of the system for at least five years. All geothermal units must have a minimum Stage 1 EER of 18.0 and COP of 3.6 in order to qualify for funding. Qualifying geothermal systems must meet the following requirements:

- (1) Closed loop systems shall qualify under rating conditions in accordance with ARI/ISO 13256-1.
- (2) Open loop systems shall qualify under rating conditions in accordance with ARI/ISO 13256-1.

4.4.5 Fuel Cells

4.4.5.1 Accepted Products and Equipment

4.4.5.1.1 Subject to availability of funds, the Delaware Green Energy Endowment Program offers grants for grid connected fuel cell systems installed by qualified contractors and applicants.

- 4.4.5.1.2 All qualifying fuel cells systems must only utilize a renewable fuel source and meet the current National Fire Protection Association (NFPA) Standards for Stationary Fuel Cell Power Plants; the current Institute of Electrical and Electronic Engineers (IEEE) Standards; and the most current version of the American National Standards Institute (ANSI) Z21.83 for Fuel Cell Power Plants. Additionally, input and output protection functions must comply with ANSI C37.2 Device Function Number Specifications.
 - 4.4.5.1.3 All systems must be designed and installed to comply with the National Electric Code (NEC).
 - 4.4.5.1.4 Fuel cells will be considered eligible if the proposed model is listed on the California Energy Commission Emerging Renewables Program List of Eligible Fuel Cells or other certification list as designated on the Department's website. A list of eligible models can be found here: http://www.consumerenergycenter.org/erprebate/eligible_fuelcells.html
- 4.5 Green Energy Endowment Program Participating Contractor Guidelines & Self-Installation Guidelines.
- 4.5.1 General Provisions
- 4.5.1.1 The Department's purpose for maintaining a list of Green Energy Endowment Program Participating Contractors is to offer the public convenient access to a list of renewable energy system installers that meet basic qualifications. Additionally, the Department registers companies with the Green Energy Endowment Program in order to assure that contractors receive training on how to submit grant applications to the Department correctly.
 - 4.5.1.2 The State of Delaware does not recommend any contractors to the public or provide warranties for renewable energy systems. Participating contractor status is not a recommendation from the Department or the State of Delaware.
 - 4.5.1.3 Potential participating contractors should be full service companies capable of installing renewable energy systems with in-house personnel. This section details how a company can register with the Department as a Green Energy Endowment Program Participating Contractor.
- 4.5.2 Participating Contractor Application
- 4.5.2.1 Contractors installing qualifying renewable energy systems must complete the Participating Contractor Application Form and receive approval from the Department prior to installing systems through the Green Energy Endowment Program.
 - 4.5.2.2 Education and Licensure
 - 4.5.2.2.1 Potential Participating Contractors must submit to the Department copies of their State of Delaware Business License, State of Delaware Professional License, and evidence of appropriate renewable energy installation training or education.
 - 4.5.2.2.2 The education and licensure requirements of the Participating Contractor Application primarily focus on the licensed professionals that will be completing the renewable energy system installations. These

professionals must be licensed under the Delaware Board of Professional Regulations and complete Department recognized renewable energy installation training classes.

4.5.2.2.3 Appropriate education will include at minimum in-classroom, technology specific hands-on installation training. It is recommended that participating contractors maintain a full-time staff of licensed field personnel that have completed Department recognized training. Participating contractors that subcontract installation work may only do so if the subcontractor can meet the participating contractor education and licensure requirements. Each Participating Contractor must submit an annual list of personnel that meet the education and licensure requirements of the Green Energy Endowment Program. Participating Contractors that fail to meet education and professional license requirements will be removed from the Green Energy Program Participating Contractor list.

4.5.2.2.4 Participating Contractors must submit copies of renewed business and professional licenses to the Department within 60 days of expiration. If a contractor does not provide the Department with renewed licenses, the contractor will be suspended from participation in the Green Energy Program until valid licenses are provided.

4.5.2.2.5 Current participating contractors will have one year from the promulgation of these regulations to comply with all of section 4.5.2.

4.5.2.3 Insurance Requirements

4.5.2.3.1 The Participating Contractor and any individual or company acting under its direction or control or on its behalf shall at its own expense procure and maintain in full force at all times Commercial General Liability Insurance with a bodily injury and property damage combined single limit of liability of at least one million dollars (\$1,000,000) for any occurrence and workers compensation insurance.

4.5.2.3.2 Participating Contractors must provide a valid insurance certificate to the Department within 60 days of the expiration date on the certificate or after any policy modification. If a valid insurance certificate is not provided, the contractor will be suspended from participation in the Green Energy Endowment Program until a valid certificate is provided.

4.5.2.4 Statement of Reliability and Good Standing

4.5.2.4.1 Contractor must be reliable and in good standing with the Better Business Bureau and maintain a rating of at least a "B".

4.5.2.4.2 The Contractor shall provide a copy of their Better Business Bureau report to the Department upon request.

4.5.3 Self-Installations

4.5.3.1 Green Energy Endowment Program will consider grant applications for self-installations if the applicant meets the following requirements:

- 4.5.3.1.1 Homeowners or building owners who intend to apply for grant funding and choose to install a renewable energy system on their property must attend a designated Green Energy Endowment Program training workshop. This training will to familiarize self-installers with program rules and application requirements. This training is not a course on the basics of renewable energy installation.
- 4.5.3.1.2 Self-installation applicants must comply with all grant documentation requirements, permit regulations, and code compliances as required by the Green Energy Endowment Program
- 4.5.3.1.3 Self-installed systems must have a minimum five-year warranty. For self-installed systems the warranty is not is not required to include labor coverage for costs associated with removing or replacing major components, because any repairs would be completed by the self-installer or at the self-installer's expense.

4.5.4 Participating Contractor Removal or Suspension

4.5.4.1 The Department reserves the right to suspend or revoke any renewable energy installer's participation in the Green Energy Endowment Program. Any renewable energy system installed by a contractor during a period of removal or suspension will not be eligible for funding. Possible reasons for participating contractor removal or suspension include but are not limited to:

- 4.5.4.1.1 Intentionally misleading or misinforming applicants about the State Green Energy Endowment Program or other programs managed by the Department.

The Department will take action only after securing confirmation of any accusations against the installer. The above referenced actions may lead to the suspension or removal of participating contractor or its employees from the program. The Department may readmit participating contractors and/or individual employees only after the Department verifies, to its satisfaction, that any pending customer issues have been resolved.

- 4.5.4.1.2 Poor workmanship as demonstrated through failed inspections

Poor workmanship includes, but is not limited to the following: installing severely under-performing systems; installing systems that pose serious safety issues; installing systems that have National Electric Code violations; or installing systems without following the manufacturer's specifications. If the Department identifies poor workmanship through site inspections or customer complaints, the contractor may be removed or suspended from participation in the Program depending on the severity of the issues. The Department reserves the right to require that any pending applicant issues be resolved to the Department's satisfaction, require the inspection of up to 100 percent of the contractor's projects, require submission of a list of new qualified employees, and/or require additional training or re-training for current employees.

- 4.5.4.1.3 Evidence of fraud

The Department will take action only after securing confirmation of any accusations against the installer. The above referenced actions may lead to the immediate suspension of the Participating Contractor and all of the company's qualified employees until further notice. Additionally, the Department may refer the company's customers to the Delaware Attorney General's Office and Delaware Better Business Bureau. The Department may readmit a suspended contractor or employees that have been suspended, but only after the Department verifies, to its satisfaction, that any pending customer issues have been resolved.

4.5.4.1.4 Lack of Program Participation

Contractors that do not complete at least one Green Energy Endowment Program project each calendar year will be removed from the Department's Participating Contractor list. This policy allows the Department to maintain a more reliable list of contractors that are actively promoting and installing renewable energy systems in Delaware.

4.5.4.1.5 Failure to submit documents

Participating Contractors that fail to submit required documents may be suspended from the Program. Required documents include but are not limited to Step 1 and 2 grant application documents, renewed business licenses, renewed insurance certificates, training certificates, and other relevant licenses as required by the State, County, or Municipality to install renewable energy systems in Delaware. Failure to submit required documentation may lead to the suspension of the contractor and its employees until the company can demonstrate to the Department that these issues have been resolved.

4.5.4.1.6 Contractor does not maintain rating of "B" or higher with the BBB of Delaware.

4.6 Renewable Energy Project Code Compliance

4.6.1 All qualifying systems must be installed in accordance with the standards and specifications of the manufacturers of the components in the system, in compliance with all applicable local electric and building codes, local ordinances, and these guidelines. Where discrepancies, if any, exist with these guidelines and local codes, local codes shall govern.

5 Solar Energy Curriculum Program

5.1 In addition to adhering to these regulations, all applicants must meet the program requirements as prescribed in 29 Del.C. Chapter 80 Section 8057 of the Delaware Energy Act.

5.2 Solar Energy Curriculum Program Requirements

5.2.1 Schools will submit an application to the Department to participate in the program. On the application, a school will describe their proposed solar curriculum. The curriculum will include not be limited to the following topics: PV science, economics, and renewable energy policy, and a hands-on installation training component. The instructor must hold a Delaware electrician's license and meet the educational and license requirements for Green Energy Endowment Program Participating Contractors.

- 5.2.2 Schools will agree to maintain a functional PV system for a period of 10 years. During this time, the school will agree to teach the curriculum every year. The school district superintendent and school principal must sign the agreement. If a school finds that it cannot teach the required curriculum, it must notify the Department immediately in writing. If the School and Department cannot agree on an acceptable alternative teaching plan, the school must notify the Department of its intention to discontinue the program.
- 5.2.3 Schools may choose to discontinue teaching the curriculum and maintaining the PV system at any time.
- 5.2.4 Schools that choose to discontinue teaching and/or maintaining their PV system before the 10-year anniversary of receiving the Solar Energy Curriculum Program grant will agree to return 75 percent of the grant award to the Department. The return of funds must occur within 60 days of submitting a written notice to the Department of the school's intention to discontinue the program.
- 5.2.5 Participating schools will provide an annual report to the Department by July 1. This report must include but will not be limited to the following:
- 5.2.5.1 Number of students taught
 - 5.2.5.2 Dates the curriculum was taught and future sessions
 - 5.2.5.3 Accounting of all SREC sales and SREC fund purchases
 - 5.2.5.4 Signature of the participating school principal attesting to the report
- 5.2.6 The participating school must agree to direct all funding collected from the sale of Solar Renewable Energy Certificates (SRECs) towards supporting and sustaining its participation in the Solar Energy Curriculum Program. This includes but is not limited to replacing curriculum materials, replacing or obtaining solar related teaching aids, and maintaining the PV system.

6 Technology Demonstration Program

6.1 General Provisions

- 6.1.1 Subject to the availability of funds, the Green Energy Fund's Technology Demonstration Program provides grants to projects that demonstrate the market potential for new renewable energy and energy efficiency technologies and accelerate the commercialization of these technologies in Delaware.
- 6.1.2 Technology Demonstration Program proposals may be accepted by the Department on a biannual basis. The total of all grants awarded under the Technology Demonstration shall not exceed 25 percent of all revenue collected for the Green Energy Fund during the previous fiscal year or 25 percent of the Green Energy Fund's balance whichever is greater.
- 6.1.3 To be eligible for consideration, a project must demonstrate a commercially available technology. Research and Development projects will not be funded under the Technology Demonstration Program. To be eligible for consideration, a project must demonstrate either a novel technology or a novel application of an available technology. Projects must include a public education component, such as integration into an educational program, or location at a facility that allows public tours of the installed renewable energy technology.
- 6.1.4 The Delaware Technology Demonstration Program grants are available to applicants located within the State of Delaware for projects conducted in the State of Delaware.

- 6.1.5 Under no circumstances, will the Department issue grants for land acquisition in association with any project proposed in the Technology Demonstration Program.
- 6.1.6 The Department will not approve projects that cannot be completed within one calendar year from the contract award date. If an approved applicant fails to complete its work within one calendar year, the applicant may submit to the Department a written request for a six-month extension. The Department will only grant one extension per project. If an extension is requested, the Department will provide the applicant with complete instructions regarding what must be done to receive an extension. If the Department does not approve an extension or the applicant does not complete the project within the Department-approved extension period, the applicant must return all grant funds upon the expiration of the original contract.
- 6.1.7 All applicants must acknowledge and agree that they understand the Delaware Freedom of Information Act (FOIA) regulations and will comply with FOIA regulations as necessary.
- 6.1.8 Additional eligibility criteria and program instructions will be provided on the Department's website.

6.2 Grant Limits

- 6.2.1 Subject to availability of funds, the Green Energy Fund's Technology Demonstration Program offers grants to projects that demonstrate the market potential of renewable energy technology in Delaware.
- 6.2.2 Details regarding the grant limits for the Technology Demonstration Program projects will be posted on the Department's website and are subject to change.
- 6.2.3 The cost of the eligible equipment shall include only the costs of labor, overhead expenditures, equipment, materials, and subcontractors incurred during the performance of the Technology Demonstration Program contract. Expenditures made prior to the contract award date are not eligible. The Department may also set a limit to the amount of overhead expenditures in terms of a percentage limit of total project cost. The Department will determine this percentage.

6.3 Code Compliance

Technology Demonstration Program projects must be installed in accordance with the standards and specifications of the manufacturers of the components in the system and in compliance with all applicable local electric, plumbing, and building codes and local ordinances to be considered for funding.

6.4 Permits

Technology Demonstration Program applicants must obtain all relevant permits from the Delaware Department of Natural Resources and Environmental Control, other necessary state, local, regional, and federal permits to be considered for funding.

6.5 Application Process

- 6.5.1 Technology Demonstration Program application proposals may be accepted by the Department on a biannual basis. Applicants for the Technology Demonstration Program shall submit their proposals and supporting information in accordance with

the Requests for Proposals issued by the Department. Information regarding the Program's Requests for Proposals and application deadlines will be provided on the Department's website.

6.5.2 Applicants must receive approval from the Department prior to beginning the project.

6.5.3 The Department reserves the right to reject any or all proposals if the information provided by the applicant is inadequate or incomplete.

6.6 Distribution of Technology Demonstration Grants

6.6.1 The Department will process the invoices from the grant recipient in accordance with contract terms on a reimbursement basis. Invoices will require supporting documentation including, but not limited to hours worked, receipts for expenditures, and a brief progress report.

6.7 Accepted Products and Equipment

6.7.1 All Technology Demonstration Program projects interconnecting with the utility grid must utilize Underwriters Laboratory (UL) listed equipment, comply with the current Institute of Electrical and Electronic Engineers (IEEE) Standards, and meet the appropriate interconnection requirements of DP&L's Technical Considerations and Interconnection Standards or similar interconnection requirements from a non-regulated electric supplier which is contributing to the Green Energy Fund.

6.7.2 All inverters must be certified by a nationally recognized testing laboratory for safe operation and be certified as meeting the current Underwriters Laboratory Standards.

6.7.3 Photovoltaic Systems - Photovoltaic projects located in Delaware using photovoltaic electricity for a novel application or the innovative use of photovoltaic design may be eligible for funding through the Technology Demonstration Program.

6.7.4 Solar Thermal - Solar thermal projects located in Delaware that use solar thermal energy to produce electricity, replace or substitute the need for non-renewable fuel, or includes a novel or innovative use of solar thermal design may be eligible for funding through the Technology Demonstration Program.

6.7.5 Small Wind Turbines - Small wind turbine projects located in Delaware that demonstrate a novel application or the innovative use of wind turbine design may be eligible for funding through the Technology Demonstration Program.

6.7.6 Fuel Cells - Fuel cell projects located in Delaware using only a renewable energy fuel source may be eligible for funding through the Technology Demonstration Program.

6.7.7 Hydroelectric Generators - Hydroelectric projects located in Delaware that are placed at existing dams or in free-flowing waterways may be eligible for funding through the Technology Demonstration Program.

6.7.8 Storage, Conversion, and Conditioning Equipment - Storage, conversion, and conditioning equipment intended for use with renewable energy products that include a novel or innovative use of storage, conversion, and conditioning equipment may be eligible for funding through the Technology Demonstration Program.

6.7.9 Passive Solar Design - Passive solar designs that implement novel or innovative passive solar products may be eligible for funding through the Technology Demonstration Program.

6.7.10 Energy Efficiency Technologies, Processes and Practices - New energy efficiency technologies may be eligible for funding through the Technology Demonstration Program. To be eligible for funding the applicant must demonstrate that a measurable improvement in energy efficiency can be achieved in comparison to conventional technologies, processes, and practices and that the proposed equipment or approach is not widely available or in use.

6.8 Evaluation of Applications

6.8.1 The Department will provide evaluation criteria and procedure information on the Department website.

7 Research and Development Program

7.1 General Provisions

7.1.1 Subject to availability of funds, the Green Energy Fund's Research and Development Program offers grants to projects that develop or improve Renewable Energy Technology in Delaware. The Department will accept proposals for Research and Development Program grants for qualifying projects that improve the engineering, adaptation, or development of products or processes that directly relate to renewable energy technology.

7.1.2 The Department may accept Research and Development Program proposals on a biannual basis. The total value of all grants awarded in any one fiscal year shall not exceed 10 percent of all revenue collected for the Green Energy Fund during the previous fiscal year or 10 percent of the balance whichever is greater.

7.1.3 The Delaware Research and Development Program grants are available to applicants located within the State of Delaware for projects conducted in the State of Delaware.

7.1.4 Under no circumstances, will the Department issue grants for land acquisition in association with any project proposed in the Research and Development Program.

7.1.5 The Department prefers Research and Development Program projects that can be completed within one calendar year from the contract award date. If an approved applicant fails to complete its project within the approved contract period, the applicant may submit to the Department a written request for a six-month extension. The Department will only grant one extension per project. If an extension is requested, the Department will provide the applicant with complete instructions regarding what must be done to receive an extension. If the Department does not approve an extension or the applicant does not complete the project within the Department-approved extension period, the applicant must return all grant funds upon the expiration of the original contract.

7.1.6 Subject to the future availability of funds, the Department may consider multi-year projects in the Research and Development Program. Awards for applicants seeking funding for multi-year projects shall not exceed 50 percent of the total annual funds available in the Research and Development Program.

7.1.7 All applicants must acknowledge and agree that they understand the Delaware Freedom of Information Act (FOIA) regulations and will comply with FOIA regulations as needed.

7.2 Grant Limits

7.2.1 Subject to availability of funds, the Green Energy Fund's Research and Development Program offers grants to projects that demonstrate the market potential of renewable energy technology in Delaware.

7.2.2 Details regarding the grant limits for the Research and Development Program projects will be posted on the Department's website and are subject to change.

7.2.3 The cost of the eligible equipment shall include only the costs of labor, overhead expenditures, equipment, materials, and subcontractors incurred during the performance of the Research and Development Program contract. Expenditures made prior to the contract award date are not eligible. The Department may also set a limit to the amount of overhead expenditures in terms of a percentage limit of total project cost. The Department will determine this percentage.

7.3 Application Process

7.3.1 Research and Development Program application proposals may be accepted by the Department on a biannual basis. Applicants for the Research and Development Program shall submit their proposals and supporting information in accordance with the Requests for Proposals issued by the Department. Information regarding the Program's Requests for Proposals and application deadlines will be provided on the Department's website.

7.3.2 Applicants must receive approval from the Department prior to beginning the project.

7.3.3 The Department reserves the right to reject any or all proposals if the information provided by the applicant is inadequate or incomplete.

7.3.4 The Department will establish a committee to review applications. The Department will determine an applicant's funding eligibility and the proposal's eligible costs.

7.4 Acceptable Projects

7.4.1 The Department will accept proposals for Research and Development Program grants for qualifying projects that improve the engineering adaptation, or development of products that directly relate to renewable energy and energy efficiency technologies. The Department reserves the right to reject any or all proposals if the information provided is inadequate or incomplete.

7.4.2 Applicants should propose projects that address all issues described in Section 8.1 with care taken to emphasize the proposed project's unique advantages and environmental benefits. The proposal should clearly define why the proposed project is an improvement over existing products that provide a similar function.

7.5 Evaluation of Applications

7.5.1 The Department will provide evaluation criteria and procedure information on the Department website.

8 Proprietary Application Information

8.1 Applicants are hereby notified that the Department intends to make all applications submitted available to non-State personnel for the sole purpose of assisting in its evaluation of the applications. These individuals will be required to protect the confidentiality of any specifically identified proprietary information obtained as a result of their participation in the evaluation.

- 8.2 Proposals submitted may contain trade secrets and/or privileged or confidential commercial or financial information, which the applicant does not want to be used or disclosed for any, purpose other than evaluation of the application. The use and disclosure of such data may be restricted, provided the applicant follows the Department's "Request for Confidentiality" procedure contained in the Department's "Freedom of Information Act" or "FOIA" regulation. It is important to understand that this FOIA regulation's confidentiality procedure is a necessary part of this regulation in that any information submitted to the Department is subject to public review unless deemed confidential by the Secretary in accordance with the criteria and procedures established in the FOIA regulation.
- 8.3 The burden lies with the applicant asserting the claim of confidentiality to meet the criteria established in the FOIA regulation.

9 Severability

If any section, subsection, paragraph, sentence, phrase or word of these regulations is declared unconstitutional by a court of competent jurisdiction, the remainder of these regulations shall remain unimpaired and shall continue in full force and effect, and proceedings there under shall not be affected.

10 Alternative Programs

This section will detail additional programs as designated by the DNREC Secretary. The Secretary may suspend part of all of the Green Energy Endowment Program, Research and Development Program, and Technology Demonstration Program and reallocate revenues authorized under § 1014(a) of Title 26 to alternative incentive programs to promote energy efficiency and green building programs, renewable energy loan programs, and incentive programs for nonprofit organizations.

8 DE Reg. 114 (07/01/04)

9 DE Reg. 1566 (04/01/06)